

***Amendments to the Claims***

This listing of claims will replace all prior versions, and listings of claims in the application.

1. (Cancelled)
2. (Currently amended) An antibody having binding affinity that is specific to a purified 20 kDa presenilin-2 C-terminal fragment (PS2-CTF), wherein the molecular weight of said PS2-CTF is determined by a polyacrylamide gel electrophoresis/western transfer procedure, and wherein said antibody does not bind presenilin-2.
3. (Previously presented) A method of detecting 20 kDa PS2-CTF, wherein the molecular weight of said PS2-CTF is determined by a polyacrylamide gel electrophoresis/western transfer procedure, in a sample comprising:
  - a) contacting said sample with an antibody according to claim 2, under conditions such that immunocomplexes form, and
  - b) detecting the presence of said antibody bound to said polypeptide.
4. (Previously presented) A diagnostic kit comprising:
  - a) a first container means containing the antibody according to claim 2 and
  - b) a second container means containing a conjugate comprising a binding partner of said antibody and a label.

5. (Previously presented) A hybridoma which produces the antibody according to claim 2.

6-8. (Cancelled)

9. (Previously presented) A method for screening compounds that inhibit proteolytic processing of presenilin 2 in a cell comprising (a) providing a compound to a cell, wherein the cell proteolytically processes presenilin 2, (b) measuring the amount of 20 kDa presenilin 2 C-terminal fragment (PS2-CTF) produced in said cell, and (c) comparing said amount produced to an amount of PS2-CTF produced in a cell not treated with said compound, wherein a decreased amount of 20 kDa presenilin 2 fragment in said cell treated with said compound as compared to a cell not treated with said compound indicates that said compound inhibits proteolytic processing of presenilin 2 in said cell, wherein the molecular weight of said PS2-CTF is determined by a polyacrylamide gel electrophoresis/western transfer procedure.

10. (Previously presented) The method according to claim 9, wherein said amount of 20 kDa presenilin 2 fragment produced in said cell is determined by an ELISA assay using an antibody specific to the 20kDa presenilin 2 fragment.

11-12. (Cancelled)